

### AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application:

#### **Listing of Claims:**

1. (Currently Amended) A decentralized computing environment, comprising:  
a number of nodes, wherein  
each node in the number of nodes ~~being~~ is capable of being a neighboring node  
[[of]] to other nodes in the number of nodes,  
each node ~~being~~ is capable of querying the availability of neighboring nodes  
for a match, wherein the match ~~being~~ is formed when a first node queries the  
availability of a second node and the second node queries the availability of the first  
node, ~~with~~ wherein if the match is formed,  
a taken state of both nodes being is set to true in the case of a match and  
the contents of each node's neighbors array or alternative data structure is  
cleared, wherein the contents of each neighbors array and alternative data  
structure comprise information relating to the corresponding node's set of  
neighbors.
2. (Original) The decentralized computing environment of Claim 1, wherein another match  
is formed when the first node queries the availability of the second node and the second node  
responds with a yes message.
3. (Original) The decentralized computing environment of Claim 1, wherein no match is  
formed when the first node queries the availability of the second node and the second node  
responds with a no message.
4. (Original) The decentralized computing environment of Claim 1, further  
comprising an inviter that invites the number of nodes to communicate to find a match.

5. (Currently Amended) The decentralized computing environment of Claim 1, further comprising a new node ~~being~~ that is dynamically introduced to the decentralized computing environment, wherein the new node ~~being~~ is capable of querying the availability of neighboring nodes for a match.

6. (Currently Amended) A ~~computer implemented~~ protocol for matching communicable nodes in a dynamic, decentralized computing environment, the protocol comprising: employing a processor to execute computer readable instructions stored in a computer readable medium to perform the following acts:

identifying two nodes that are capable of communicating with each other;

inviting a first node of the two nodes to communicate with a second node of the two nodes ~~to communicate~~ to find a match, wherein the invitation includes an edge containing an address of the first node and an address of the second node;

inviting the second node to communicate with the first node to find the match, wherein the invitation includes the edge containing the address of the first node and the address of the second node; and

~~discovering matching availability of nodes by sending availability messages; and~~

forming a match between the first node and the second node, comprising: where upon

sending another availability message from [[a]] the first node to [[a]] the second node,

replying with the second node sends a message selected from a group consisting of an availability message [[and]] or a yes message,

setting a ~~with~~ taken state of the second node being set to true in the case of a match and

clearing the contents of this the second node's neighbors array or alternative data structure ~~cleared~~ of information relating to the node's set of neighbors.

7. (Currently Amended) The protocol of Claim 6, wherein ~~the act of inviting is executed by an inviter, the inviter identifying a~~ the first node and [[a]] the second node that are neighbors and

~~sending an invite, which contains addresses of the first node and the second node, to the first node, the inviter further sending another invite to the second node.~~

8. (Currently Amended) The protocol of Claim [[7]] 6, further comprising terminating the protocol if the first node has already been matched to another node, ~~otherwise, the protocol sending an availability message to the second node to determine its availability for a match.~~

9. (Currently Amended) The protocol of Claim [[8]] 6, further comprising ~~receiving by the second node the availability message sent from the first node, the second node answering replying with a no message to the first node if the second node has already been matched to another node, otherwise, a taken state of the second node is set to true signifying that the second node being matched to the first node.~~

10. (Currently Amended) The protocol of Claim [[9]] 6, further comprising setting a taken state of the first node to true ~~signifying that the first node is matched to the second node.~~

11. (Currently Amended) A computer-readable medium having stored thereon computer-executable instructions for performing a method for matching communicable nodes in a dynamic, decentralized computing environment, the ~~protocol~~ method comprising:

discovering two nodes, wherein each node has an address and addresses from the two nodes form an edge;

inviting the two nodes to communicate to find a match, comprising:

inviting the first node to communicate with the second node, wherein the invitation includes information about the edge; and

inviting the second node to communicate with the first node, wherein the invitation includes information about the edge;

communicating to discover ~~discovering~~ a matching availability of the two nodes, wherein each node sends availability messages; and

forming a match, comprising where upon

sending another availability message from a first node to a second node,

~~sending the second node sends a message selected from a group consisting of an availability message and or a yes message from the second node to the first node,~~

~~setting with a taken state of the second node being set to true in the case of a match and~~

~~removing all information related to other neighboring nodes from the contents of this second node's neighbors array or alternative data structure cleared.~~

12. (Currently Amended) The computer-readable medium of Claim 11, the method further comprising discovering the two nodes, wherein ~~the act of inviting is executed by an inviter, the inviter identifying a the first node and [[a]] the second node that are neighbors and sending an invite, which contains addresses of the first node and the second node, to the first node, the inviter further sending another invite to the second node.~~

13. (Currently Amended) The computer-readable medium of Claim ~~[[12]]~~ 11, the method further comprising terminating the method protocol if the first node has already been matched to another node, ~~otherwise, the protocol sending an availability message to the second node to determine its availability for a match.~~

14. (Currently Amended) The computer-readable medium of Claim ~~[[13]]~~ 11, the method further comprising receiving by the second node the availability message sent from the first node, and answering with a the second node answering no message to the first node if the second node has already been matched to another node, ~~otherwise, a taken state of the second node being set to true signifying that the second node is matched to the first node.~~

15. (Currently Amended) The computer-readable medium of Claim ~~[[14]]~~ 11, the method further comprising setting a taken state of the first node to true signifying that the first node is matched to the second node.